

Table S2. Main themes and sub themes findingsMain Theme: Collaboration and IntegrationSub-Themes:Staff apprehension:

Staff acknowledged that combining the patient populations made sense for symptom management. However, they discussed their apprehension about sufficient knowledge of the other disease population after being in a specialist area for so long.

"It did make sense [to combine the cardiac and respiratory rehabilitation programmes] because they have got the same symptoms, but for me obviously, as a nurse, my whole background has been in cardiac. So to then have it faced with me that you're looking after people in a class that have got lung conditions, which I'm probably not au fait with, that was a bit of the worry." (F1, CR)

"When I first heard about what the plans were to integrate the services essentially, in some ways it made sense, because a lot of it was crossed over with treating the patients for symptoms rather than their actual disease primarily. But then there's also, isn't there, there's that fear of change and doing something different and trying to work it out..." (F5, PR)

Both teams acknowledged that although they both provided rehabilitation services, these services were run differently and as such there were some initial concerns as to what the change would look like and whether the patients would be able to manage the adapted programme. With this being said, there was also a recognition that the teams needed to move forward and embrace changes positively.

"I think there's always a bit of a threat, isn't there, when you have a change and you think oh I don't know what to do with that kind of patient and that's not what I signed up for, etc. But it's important to move forward and to look at things as a whole team." (F2, PR)

Managing classes:

One of the initial concerns with combining the programmes was that the guidelines for the different services were not comparable. This meant the teams had to agree the commonalities and try and come to a compromise that both patient populations would be able to manage.

"I guess the guidelines are a little bit different, aren't they, slightly for cardiac to pulmonary and we do follow them, don't we, I suppose we have to with, I guess if you're thinking about blood pressures and things, you may still exercise someone with a blood pressure that's above 100 diastolic, whereas we wouldn't in cardiac, you see, so I think those are the little things, probably teething problems, weren't they, and getting staff to understand that it's just different in cardiac really." (F1, CR)

"So when we came together we'd already been up at Loughborough for quite some time, so it wasn't so much of an issue. You know, we knew the place, we knew how it all worked. And we just converted one of our pulmonary classes here at Glenfield into the breathlessness class. So it was just a matter of tweaking maybe how we ran the class, but apart from that it was essentially pretty much what we'd always been doing." (F5, PR)

Treating patients the same irrespective of their primary diagnosis, was important to staff but was something that developed over time as staff became more confident with the different disease populations.

"I don't think I'd see the patients as different, to be honest. Once they're in the class I know that a qualified member of the team has seen them, I know they're in the right class for comorbidities or

whatever else they've got, they're safe to be in that class exercising. So once they're in the class I don't think I say ah he's heart failure, that one's COPD." (F4, PR)

Learning from each other:

Many of the staff found working with other HCP's to be an interesting and positive experience as they were able to learn from each other's knowledge and skill. Staff felt reassured to know that there was always support from another member of the MDT in the specialist area that they may not have been as confident in. The teams seemed to be split by their stratification of risk, which would go on to define the intensity of the exercise that was prescribed. Staff also found it interesting to work with different patients.

"It's been very interesting to work together and to learn more about what each other does." (F2, CR)

"You've always got that support of the other people that do deal with the lung conditions that you can ask anything you're not sure about, so yeah." (F1, CR)

"I think the benefits [of the breathlessness programme] are obviously working with other healthcare professionals and learning something new, so working with different patients that you wouldn't necessarily work with normally." (F5, PR)

Views on service delivery:

Over time, the initial barriers expressed around trying to deliver a joint service reduced as it became more apparent that there were more crossovers between the services than staff had originally thought.

"Although the [cardiac and respiratory] services are both rehabilitation services, they're run very differently, but then when you actually looked at it more closely there are a lot of crossovers, so it was quite easy to integrate it." (F5, PR)

Staff seemed unsure of how breathlessness rehabilitation would be delivered in the future, though they were willing to continue and saw its constantly adapting nature as a positive learning experience.

"Well, I would say that we know it can work now. We've tried it and we've seen the benefits and that patients have enjoyed it and it works well. It's about selecting the right patients, but yeah now I would say we feel more positive about it, don't we?...More comfortable about it, but it's just about re-evaluating it, which I guess that's what we're doing." (F2, CR)

Main Theme: Service Quality

Sub-Themes:

Patient benefits:

Feedback from patients was overwhelmingly positive, describing how they had found it enjoyable and beneficial. Staff felt the programme had worked with the majority of those patients who had completed, and the benefits were easy to see. This was further evidenced by comparable results to those of standard cardiac and pulmonary classes. Similarly the number of incidents was minimal reflecting those reported in specific rehab services previously and so it was felt the structure of the programme worked.

"From the patients that I've seen, obviously I've only seen breathlessness, most of them complete and most of them give you positive feedback that they've enjoyed it and they've improved." (F2, CR)

"When we did the closed programme though, all the results were comparable to normal services and

they improved.” (F5, PR)

“We’ve had minimal incidents of people being unwell or whatever, so it’s obviously a good structure, it obviously works OK.” (F1, CR)

Compared with standard classes, staff noticed patients were working harder as they were required to move more between circuits and this was reflected positively in the outcomes. Respiratory patients found the warm-up harder, but were otherwise unaware of being in a mixed cohort with cardiac patients.

“I had a comment from a patient who had done pulmonary rehab previously who had come back and done breathlessness and just said that the warm-up was just far too long for them when they did the breathlessness compared to pulmonary.” (F3, PR)

“I think just keeping the patients moving a lot more, because in our standard classes they quite often like to have quite big rests in between doing their weights or doing their walking and things and have a bit of a chinwag with the person next to them; whereas, you know, it’s full-on for an hour and a quarter to get them going through everything and it just means that they, I think, work that little bit harder, I think the results have been better with patients that we’ve seen doing the breathlessness programme.” (F5, PR)

Providing patient choice:

Feedback from staff highlighted that Breathlessness rehabilitation provided more patient choice and increased access to rehabilitation overall, enabling staff to use their clinical judgement in what they can offer to patients.

“So we’ve got the breathlessness, we’ve got straight heart failure for the very deconditioned patient or they can go into normal rehab. So it gives us more choices and the more choices that’s better, isn’t it, so it becomes more bespoke for the patient.” (F1, CR)

“We have patients with heart failure in our classes and if that is the main diagnosis for them obviously why are they going to pulmonary rehab. The name breathlessness makes sense for them, but it doesn’t mean that the breathlessness rehab will take over. It’s going to be there as another option, even though it’s fundamentally the same programme, the same exercises that you are giving to patients.” (M, PR)

Main Theme: Future Challenges

Sub-Themes:

Not fully integrated service:

Whilst the teams are integrated during classes, staff felt that each team still tended to look after its own patients. This becomes more apparent when there are split education sessions. Staff also felt there were a number of barriers to becoming a fully integrated service, the majority of which were due to necessary individual service processes (e.g. assessments/discharges) and outcomes (e.g. questionnaires) needed for reporting to different national audits.

“But we’re not fully integrated because you’ve still got to look after your individual patients. So cardiac still do the initial assessments and we still do our initial assessments, and we discharge our own patients as well.” (F5, PR)

“Primarily you are still looking after your own patients, although we integrate in the class.” (F1, CR)

Limited facilities:

Facilities at the centre in which Breathlessness Rehabilitation was set up were felt to be superior to those at the main hospital site. This was due to facilities allowing patients to exercise in one room, which is easier to manage than classes at the hospital where patients can be exercising in different places, resulting in staff being split up and classes feeling slightly disordered. The downside to this site is that it is a non-hospital site and this has to be taken into account when offering classes to patients – risk stratification is paramount.

“I mean because Loughborough with the place being air conditioned and things like that everybody walks inside. But here you can have them walking on the corridor, walking on the treadmill, walking outside. So it just splits everybody off which can just feel a bit chaotic at times.” (F4, PR)

“I think it’s absolutely fine here, but the downside is that we need to vacate the room, because there is another programme coming after us which starts in our programme.” (M, PR)

“You have to be conscious of who you’re putting into the classes, because it’s not a hospital site, so if they need transport or if they need oxygen or they’re quite high risk patients you wouldn’t want them up there.” (F5, PR)

Additional training:

Training was provided initially; however, staff felt it was insufficient and could have benefitted from spending time in the other service to gain a better insight into how each of the services compared. The need for further training was recognised. The education component of each service is delivered differently, and some staff felt they needed additional training to deliver this more confidently.

“I’d have liked to have gone to, if we’d have done it where we’d have all rotated...to all the areas first then we would have known about cardiac patients and the types of drugs they’re on and what a cardiac class is normally like.” (F4, PR)

“I think perhaps, I’m probably speaking for myself here, but we need to improve our knowledge of the education, so we can deliver it better. So I don’t know if all the people who are doing the class are comfortable with the education topics.” (F2, CR)